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| <b>FORM PTO-1449 (Modified)</b><br><br><b>LIST OF INFORMATION PROVIDED BY APPLICANT</b><br>(Use several sheets if necessary) | <b>ATTY. DOCKET NO.</b><br>TH1647 02 (US) | <b>APPLICATION NUMBER</b> |
|  | <b>APPLICANT</b><br>C. L. Edwards et al.  |                           |
|  | <b>FILING DATE</b>                        | <b>GROUP ART UNIT</b>     |

| REFERENCE DESIGNATION |    | U.S. PATENT DOCUMENTS |          |                                       |       |          |                            |
|-----------------------|----|-----------------------|----------|---------------------------------------|-------|----------|----------------------------|
| Examiner Initial      |    | Document No.          | Date     | Patentee                              | Class | Subclass | Filing Date If Appropriate |
| <i>m</i>              | AA | 3,676,523             | 7/11/72  | Mason                                 | 260   | 683.15D  |                            |
|                       | AB | 3,686,351             | 8/22/72  | Mason                                 | 260   | 683.15D  |                            |
|                       | AC | 3,737,475             | 6/5/73   | Mason                                 | 260   | 683.15D  |                            |
|                       | AD | 3,825,615             | 7/23/74  | Lutz                                  | 260   | 683.15D  |                            |
|                       | AE | 4,020,121             | 4/26/77  | Kister et al.                         | 260   | 683.15D  |                            |
|                       | AF | 4,021,447             | 5/3/77   | Rubin et al.                          | 260   | 326.8    |                            |
|                       | AG | 3,702,886             | 11/14/72 | Argauer et al.                        | 423   | 328      |                            |
|                       | AH | 3,709,979             | 1/9/73   | Chu                                   | 423   | 328      |                            |
| <i>ml</i>             | AI | 3,832,449             | 8/27/74  | Rubin et al.<br><i>Rosinski et al</i> | 423   | 328      |                            |

| FOREIGN PATENT DOCUMENTS |    |              |          |               |       |          |                       |
|--------------------------|----|--------------|----------|---------------|-------|----------|-----------------------|
|                          |    | Document No. | Date     | Country       | Class | Subclass | Translation<br>Yes No |
| <i>m</i>                 | AL | WO 94/05761  | 3/17/94  | World         | C11D  | 3/10     |                       |
| <i>m</i>                 | AM | 1,429,143    | 3/24/76  | Great Britain | C11D  | 10/02    |                       |
| <i>m</i>                 | AN | WO 99/42553  | 8/26/99  | World         | C11D  | 3/43     |                       |
| <i>m</i>                 | AO | 0,884,298 A2 | 12/16/98 | Europe        | C07C  | 43/10    | X                     |

| OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.) |    |  |
|--|----|--|
| <i>m</i>   | AR | Myers, Drew, "Surfactant Science and Technology," pp. 82-85, VCH Publishers, Inc. (New York, NY, USA) 1988 (ISBN 0-89573-399-0)<br><i>mma</i>                        |
| <i>m</i>   | AS | K. Shinoda, "Principles of Solution and Solubility," translation in collaboration with Paul Becher, published by Marcel Dekker, Inc. 1978, pp. 292-304<br><i>mma</i> |
| <i>m</i>   | AT | Reid, V.W., G.F. Longman and E. Heinerth, "Determination of Anionic-Active Detergents by Two-Phase Titration," <i>Tensile</i> 4, 1967, pp. 292-304<br><i>mma</i>     |

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| <b>EXAMINER</b><br> | <b>DATE CONSIDERED</b><br>8/16/98 |
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| Examiner Initial      |    | Document Number | Date     | Patentee              | Class | Subclass | Filing Date if Appropriate |
| <i>no</i>             | BA | 4,482,531       | 11/13/84 | Kuehl                 | 423   | 329      |                            |
|                       | BB | 3,950,496       | 4/13/76  | Ciric                 | 423   | 328      |                            |
|                       | BC | 3,972,983       | 8/3/76   | Ciric                 | 423   | 328      |                            |
|                       | BD | 4,046,859       | 9/6/77   | Plank et al.          | 423   | 328      |                            |
|                       | BE | 4,247,416       | 1/27/81  | Doherty et al.        | 252   | 428      |                            |
|                       | BF | 4,086,186       | 4/25/78  | Rubin et al.          | 252   | 430      |                            |
|                       | BG | 4,046,859       | 9/6/77   | Plank et al.          | 423   | 328      |                            |
|                       | BH | 4,287,166       | 9/1/81   | Dwyer et al.          | 423   | 325      |                            |
| <i>no</i>             | BI | 4,247,728       | 1/27/81  | Rubin et al.          | 585   | 467      |                            |

| FOREIGN PATENT DOCUMENTS |    |                 |          |         |       |          |                       |
|--------------------------|----|-----------------|----------|---------|-------|----------|-----------------------|
|                          |    | Document Number | Date     | Country | Class | Subclass | Translation<br>Yes No |
| <i>no</i>                | BL | 06073045        | 3/15/94  | Japan   | C07D  | 273/08   | X                     |
|                          | BM | 03261779        | 11/21/91 | Japan   | C07D  | 309/24   | X                     |
|                          | BN | JP 11-349507    | 12/21/99 | Japan   | C07C  | 43/11    | X                     |
| <i>no</i>                | BO | 100 20 899 A1   | 10/25/01 | Germany | C07D  | 493/04   | X                     |

| OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.) |    |  |
|--|----|--|
| <i>no</i>  | BR | B. E. Gordon, H. Roddewig and W. T. Shebs, "A Double Label Radiotracer Approach to Detergency Studies," Journal of American Oil Chemists' Society, Vol. 44, No. 5 (1967) pp. 289-294<br><i>nna</i> |
| <i>no</i>  | BS | W. T. Shebs and B. E. Gordon, "Improvements in Detergency Precision With Radioactive Soil," Journal of American Oil Chemists' Society, Vol. 45, No. 5 (1968) pp. 377-380<br><i>nna</i>             |
| <i>no</i>  | BT | W. T. Shebs, "Radioisotope Techniques in Detergency," Chapter 3, <u>Detergency Theory and Technology</u> , Marcel Dekker, Inc., New York (1987) pp. 125-191<br><i>nna</i>                          |

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| Examiner Initial      |    | Document No.          | Date     | Patentee        | Class | Subclass | Filing Date If Appr priat |
| <i>ms</i>             | CA | 4,495,303             | 1/22/85  | Kuehl           | 502   | 62       |                           |
|                       | CB | 4,397,827             | 8/9/83   | Chu             | 423   | 326      |                           |
|                       | CC | 4,640,829             | 2/3/87   | Rubin           | 423   | 328      |                           |
|                       | CD | 4,568,654             | 2/4/86   | Valyocsik       | 502   | 62       |                           |
|                       | CE | 4,698,217             | 10/6/87  | Valyocsik       | 423   | 328C     |                           |
|                       | CF | 4,647,442             | 3/3/87   | Derouane et al. | 423   | 306      |                           |
|                       | CG | 4,619,818             | 10/28/86 | Derogane et al. | 423   | 306      |                           |
|                       | CH | 4,954,325             | 9/4/90   | Rubin et al.    | 423   | 328      |                           |
| <i>ms</i>             | CI | 5,236,575             | 8/17/93  | Bennett et al.  | 208   | 46       |                           |

| FOREIGN PATENT DOCUMENTS |    |              |      |         |       |          |                       |
|--------------------------|----|--------------|------|---------|-------|----------|-----------------------|
|                          |    | Document No. | Date | Country | Class | Subclass | Translation<br>Yes No |
|                          | CL |              |      |         |       |          |                       |
|                          | CM |              |      |         |       |          |                       |
|                          | CN |              |      |         |       |          |                       |
|                          | CO |              |      |         |       |          |                       |

| OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.) |    |   |
|--|----|---|
| <i>ms</i>  | CR | Roger Hunter et al., "Allylation Using Allylborates," TETRAHEDRON, Vol. 50, No. 3, 1994, pp. 871-888<br><i>nm</i>   |
| <i>ms</i>  | CS | Birgit Bartels et al., "A Selectivity of Activated Ketel Reduction With Borane Dimethyl Sulfide," JOURNAL OF ORGANIC CHEMISTRY, Vol. 58, No. 24, 1993, pp. 6756-6765<br><i>nm</i>   |
| <i>ms</i>  | CT | T. Hosokawa et al., "Palladium (II)-Catalyzed Acetalization of Terminal Olefins Bearing Electron-Withdrawing Substituents With Optically Active Diols," JOURNAL OF ORGANIC CHEMISTRY, Vol. 52, 1987, pp. 1958-1764<br><i>nm</i> |

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| Examiner Initial |    | Document Number | Date     | Patentee          | Class | Subclass | Filing Date If Appropriate |
|------------------|----|-----------------|----------|-------------------|-------|----------|----------------------------|
| <i>W</i>         | DA | 3,308,069       | 3/7/67   | Wadlinger et al.  | 252   | 455      |                            |
|                  | DB | Re. 28,341      | 2/18/75  | Wadlinger, et al. | 208   | 120      |                            |
|                  | DC | 3,058,805       | 10/16/62 | Weber             | 23    | 113      |                            |
|                  | DD | 3,130,007       | 4/21/64  | Breck             | 23    | 113      |                            |
|                  | DE | 3,996,337       | 12/7/76  | Stabenow et al.   | 423   | 328      |                            |
|                  | DF | 4,440,871       | 4/3/84   | Lok et al.        | 502   | 214      |                            |
|                  | DG | 5,059,567       | 10/22/91 | Linsten et al.    | 502   | 64       |                            |
|                  | DH | 3,462,525       | 8/19/69  | Levinsky          | 424   | 56       |                            |
| <i>W</i>         | DI | 3,428,654       | 2/18/69  | Rubinfeld et al.  | 260   | 327      |                            |

## FOREIGN PATENT DOCUMENTS

|  |    | Document Number | Date | Country | Class | Subclass | Translation<br>Yes No |  |
|--|----|-----------------|------|---------|-------|----------|-----------------------|--|
|  | DL |                 |      |         |       |          |                       |  |
|  | DM |                 |      |         |       |          |                       |  |
|  | DN |                 |      |         |       |          |                       |  |
|  | DO |                 |      |         |       |          |                       |  |

## OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)

|          |    |  |
|----------|----|--|
| <i>W</i> | DR | F. Wang et al., Synlett, (1998) pp. 245-245<br><i>nm A</i>               |
| <i>W</i> | DS | A. A. Volkov et al., Dokl. Chem. 283, (1985), pp. 246-248<br><i>nm A</i> |
| <i>W</i> | DT | International Search Report of 5 July 2002                               |

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|-----------------------|----|-----------------------|----------|------------------|-------|----------|----------------------------|
| Examiner Initial      |    | Document Number       | Date     | Patentee         | Class | Subclass | Filing Date if Appropriate |
| no                    | EA | 3,420,875             | 1/7/69   | Di Salvo et al.  | 260   | 513      |                            |
|                       | EB | 3,506,580             | 4/14/70  | Rubinfeld et al. | 252   | 138      |                            |
|                       | EC | 3,579,537             | 5/18/71  | Rubinfeld et al. | 260   | 327      |                            |
|                       | ED | 3,524,864             | 8/18/70  | Rubinfeld et al. | 260   | 327      |                            |
|                       | EE | 5,057,627             | 10/15/91 | Edwards          | 568   | 618      |                            |
|                       | EF | 6,087,311             | 7/11/00  | Van Dijk         | 510   | 294      |                            |
|                       | EG | 6,083,893             | 7/4/00   | Zint et al.      | 510   | 221      |                            |
|                       | EH | 6,159,920             | 12/12/00 | Ridyard          | 510   | 324      |                            |
| no                    | EI | 6,153,574             | 11/28/00 | Janssen          | 510   | 224      |                            |

| FOREIGN PATENT DOCUMENTS |    |                 |      |         |       |          |                       |
|--------------------------|----|-----------------|------|---------|-------|----------|-----------------------|
|                          |    | Document Number | Date | Country | Class | Subclass | Translation<br>Yes No |
|                          | EL |                 |      |         |       |          |                       |
|                          | EM |                 |      |         |       |          |                       |
|                          | EN |                 |      |         |       |          |                       |
|                          | EO |                 |      |         |       |          |                       |

| OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.) |  |
|--|--|
| ER   | Anionic Surfactants, Volume 7, Part I, edited by Warner M. Linfield, 1976 by Marcel Dekker, Inc. |
| ES   |  |
| ET   |  |

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| Examiner Initial      |    | Document No.          | Date    | Patentee      | Class | Subclass | Filing Date If Appropriate |
| <i>m</i>              | FA | 2,778,855             | 1/22/57 | Shokal et al. | 260   | 613      |                            |
|                       | FB | 4,503,275             | 3/5/85  | Harris et al. | 568   | 866      |                            |
|                       | FC | 4,317,938             | 3/2/82  | Lutz          | 568   | 619      |                            |
|                       | FD | 4,721,816             | 1/26/88 | Edwards       | 568   | 618      |                            |
|                       | FE | 4,721,817             | 1/26/88 | Edwards       | 518   | 618      |                            |
|                       | FF | 2,808,442             | 10/1/57 | Smith et al.  | 260   | 611      |                            |
|                       | FG | 5,912,408             | 6/15/99 | Trinh et al.  | 8     | 142      |                            |
| <i>m</i>              | FH | 4,544,512             | 10/1985 | Hozumi et al. | 558   | 169      |                            |
|                       | FI |                       |         |               |       |          |                            |

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|                          | FL |              |      |         |       |          |                       |
|                          | FM |              |      |         |       |          |                       |
|                          | FN |              |      |         |       |          |                       |
|                          | FO |              |      |         |       |          |                       |

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